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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,349	12/21/2001	Andre Zaccarin	884.447US1	4986

7590

04/25/2005

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EXAMINER

LEE, Y YOUNG

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,349

Applicant(s)

ZACCARIN, ANDRE

Examiner

Y. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 10-15 and 27-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 16-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1/26/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-9 and 16-26 in the reply filed on 1/13/05 is acknowledged. The traversal is on the ground(s) that (1) no serious burden and (2) groups not patentably distinct. This is not found persuasive because (1) applicant asserts that since "motion vector" is mentioned in each group of claims, the claims should all be classified in 375/240.16. However, this would implied every invention that deals with MPEG compression would be classified in one subclass because they all inherently deal with motion vectors; and (2) applicant asserts on page 6 of the Remarks that the current application describes only a single embodiment. However, the current application is subjected to a restriction requirement, not an election of species; applicant also asserts on pages 6-7 of the Remarks that the combination in Group I also estimates motion vectors based on collinear pixels. However, applicant fails to recognized that Group I requires defining a search area of the reference frame that is not required in the subcombination of Group IV, for example; applicant further asserts on pages 7-8 of the Remarks that claim 27 does not explicitly claim the words "candidate search area." However, claim 27 defines selective pixels of a block that may be used as candidate search areas.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 10-15 and 27-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable

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generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 1/13/05.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-9 and 16-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Liu et al (New Fast Algorithms for the Estimation of Block Motion Vectors).

Liu et al discloses the same system and method of estimating a motion vector for a target block of pixels in a target frame relative to a reference frame as specified in claims 1-9 and 16-26 of the present invention, comprising defining a search area of the reference frame; defining a plurality of search sets (e.g. 1-4) based on the search area, each search set identifying pixels from a column or row of the search area, with each pixel in each search set identifying a respective block of pixels (i.e. subsampling); determining a set of candidate blocks with each block (Fig. 4), identified by a pixel in search set (Fig. 1), and minimizing a first distortion function relative to the target block (e.g. MAD), the first distortion function based only on a set of two or more collinear pixels from the target block and a set of two or more collinear pixels from block (e.g. B-E); determining which of the candidate blocks minimizes a second distortion function relative to the target block (e.g. sub-block); and estimating the motion vector based on

the target block and one of the candidate blocks that minimizes the second distortion function (e.g. EQ. 2).

With respect to claims 2-9 and 16-26, the search area of Liu et al includes rows or columns (Fig. 1); each search set only identifies one or more pixels from one row or column and one or more pixels from every other row or column of the search area (Fig. 2); each pixel in each search set occupies the upper left position (e.g. a) of its associated block of pixels; each row or column of pixels in the search area consists of a first number of pixels (i.e. entire block); each search set identifies less than the first number of pixels (i.e. subsampling); the set of two or more collinear pixels from the target block consists of pixels in the row or column of the target block and the set of two or more collinear pixels from the block consists of pixels from the row or column of the block (e.g. pixel a); the plurality of search sets are mutually exclusive (Fig. 1); the second distortion function is based on all the pixels of the target block (i.e. no subsampling); and each block consists of 16 rows or 16 columns.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y. Lee whose telephone number is (571) 272-7334. The examiner can normally be reached on (571) 272-7334.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Y. Lee
Primary Examiner
Art Unit 2613

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